

teristic of COPD in the bronchial tree and pulmonary parenchyma more frequently than do nonsmokers.

9. Respiratory infections are more prevalent and severe among cigarette smokers, particularly heavy smokers, than among nonsmokers.

10. Cigarette smokers appear to develop postoperative pulmonary complications more frequently than nonsmokers.

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**BRONCHOPULMONARY**

**APPENDIX TABLES**

TABLE A2.—*Smoking and chronic obstructive pulmonary disease symptoms<sup>1</sup>—percent prevalence*  
 (Numbers in parentheses represent total number of individuals in particular smoking group)  
 SM = Smokers. NS = Nonsmokers. EX = Ex-smokers.

Author, year, country, reference	Number and type of population	Cough	Sputum production	Breathlessness or dyspnea	Chest illnesses	Other	Comments
Short et al., 1939, U.S.A. (206).	2,031 male and female insurance policy holders.	NS ..... 1.6 (496) SM ..... 6.4 (1,298)			NS ..... 10.9 SM ..... 18.0		Chest illnesses as repre- sented by frequent colds.
Oswald and Medvei, 1955, England (178).	3,602 male and 2,242 female clerical workers 40-65 years of age.				<i>Chronic Bronchitis</i> <i>Males</i> NS ..... 15.8 (474) SM ..... 18.4 (1,940) <i>Females</i> NS ..... 12.1 (619) SM ..... 18.8 (579)	Chronic bronchitis defined by habitual cough and sputum production.	
Phillips et al., 1956, U.S.A. (185).	1,274 male factory workers without overt pulmonary disease or heart failure.	NS ..... 2.0 (451) SM ..... 51.0 (823)					
Higgins 1957, England (112).	301 male and 280 female rural dwellers 25-74 years of age.		<i>Cough and sputum</i> <i>Males</i> NS ..... 7.1 (28) SM ..... 53.9 (222) <i>Females</i> NS ..... 4.5 (176) SM ..... 17.2 (93)	<i>Males</i> NS ..... 7.1 SM ..... 19.8 <i>Females</i> NS ..... 21.6 SM ..... 9.7	<i>Males</i> NS ..... 3.6 SM ..... 17.1 <i>Females</i> NS ..... 9.7 SM ..... 15.1	<i>Chronic Bronchitis</i> <i>Males</i> NS ..... 3.6 SM ..... 9.9 <i>Females</i> NS ..... 3.4 SM ..... 8.6	

TABLE A2.—*Smoking and chronic obstructive pulmonary disease symptoms<sup>1</sup>—percent prevalence (cont.)*

(Numbers in parentheses represent total number of individuals in particular smoking group)

SM = Smokers.

NS = Nonsmokers.

EX = Ex-smokers.

Author, year, country, reference	Number and type of population	Cough	Sputum production	Breathlessness or dyspnea	Chest illnesses	Other	Comments
Higgins and Cochran, 1958, England (114).	94 males and 92 females randomly chosen (members of an agricultural community.)		<i>Females</i> <i>Cough and sputum</i> NS ..... (6) SM ..... 24.0 (75) NS ..... 3.1 (64) SM ..... 3.0 (20)	<i>Males</i> NS ..... 33.3 SM ..... 29.3 Females NS ..... 45.3 SM ..... 20.0	<i>Males</i> NS ..... 0.0 SM ..... 16.0 Females NS ..... 10.9 SM ..... 10.0		<i>Chronic bronchitis</i> <i>Males</i> NS ..... 0.0 SM ..... 6.7 <i>Females</i> NS ..... 0.0 SM ..... 5.0
Edwards et al., 1959, England (74).	1,737 male out- patients on lists of general prac- titioners >60 years of age.						<i>Chronic bronchitis</i> NS ..... 16.6 (151) Cigarettes 29.7 (779) 1-9 .... 23.4 (235) 10-19 .... 31.2 (369) >20 .... 33.7 (175) Pipe .... 18.5 (340)
Flick and Paton, 1959, U.S.A. (86).	222 male patients not suffering from overt cardio- pulmonary disease, 20-90 years of age.	NS ..... 10.0 (51) SM ..... 55.0 (157)	NS ..... 25.0 (49) SM ..... 65.0 (156)		NS ..... 30.0 (47) SM ..... 60.0 (138)		
Higgins et al., 1959, England (116).	776 males in various occupations 25-64 years of age.		<i>Cough and sputum</i> SM ..... 7.1 (85) NS ..... 36.9 (575)	NS ..... 9.4 SM ..... 24.9	NS ..... 7.1 SM ..... 20.2	SM ..... 14.3 NS ..... 3.5	<i>Chronic bronchitis</i>

TABLE A2.—*Smoking and chronic obstructive pulmonary disease symptoms<sup>1</sup>—percent prevalence (cont.)*  
 (Numbers in parentheses represent total number of individuals in particular smoking group)  
 SM = Smokers. NS = Nonsmokers. EX = Ex-smokers.

Author, year, country, reference	Number and type of population	Cough	Sputum production	Breathlessness or dyspnea	Chest illnesses	Other	Comments
Higgins, 1959, England (113).	393 males in various occupations 55-64 years of age.		<i>Cough and sputum</i>			<i>Chronic bronchitis</i>	Chronic bronchitis defined as persistent sputum and at least 1 chest illness in past 3 years. Tobacco gram equivalents are: 1 cigarette = 1 gram, 1 cigar = 2-5 grams, 1 pipe = 10-25 grams.
Liebeschuetz, 1959, England (156).	147 male soldiers 20-30 years of age.	NS ..... 0.0 (52)	SM ..... 13.0 (83)				
Ashford et al., 1961, England (11).	4,014 male coal workers.				<i>Respiratory symptoms</i>	Respiratory symptoms— “bronchitis and/or asthma”. No dose rela- tionship found.	
					NS ..... 10.3 (677)		
					EX ..... 19.5 (123)	“bronchitis	
					Cigarettes 21.1 (1,504)	and/or	
					Pipe only 35.1 (202)	asthma”. No	
					Cigarettes and pipe 37.1 (90)	dose rela- tionship	
					All SM .. 21.7 (3,214)	found.	

TABLE A2.—*Smoking and chronic obstructive pulmonary disease symptoms<sup>1</sup>—percent prevalence (cont.)*  
 (Numbers in parentheses represent total number of individuals in particular smoking group)  
 SM = Smokers. NS = Nonsmokers. EX = Ex-smokers.

Author, year, country, reference	Number and type of population	Cough	Sputum production	Breathlessness or dyspnea	Chest illnesses	Other	Comments
Bower, 1961, U.S.A. (41).	95 male and 77 female bank employees 40–70 years of age.	NS ..... 4.1 (49) SM ..... 27.6 (76) Pipe, cigar ... (13)	NS ..... 20.4 SM ..... 34.2 Pipe, cigar 15.4		NS ..... 34.7 SM ..... 38.2 Pipe, cigar 58.9		Chest illness— chest colds during each of last 2 winters.
Fletcher and Tinker, 1961, England (85).	363 male London transport employees 40–50 years of age.	NS ..... (30) 1–14 g./day 15.5 (156) >15 ..... 27.3 (116)	NS ..... 8.7 1–14 g./day .. 29.9 >15 ..... 36.9	NS ..... . . . 1–14 g./day .. 8.2 >15 ..... 8.6	NS ..... 4.3 1–14 g./day 8.2		
Read and Selby, 1961, Australia (191).	170 male and 132 female individuals interviewed in an out- patient clinic (not all patients).		NS ..... 4.4 SM ..... 23.1 EX ..... 21.2  Females NS ..... 4.9 SM ..... 18.6				
Balchum et al., 1962, U.S.A. (24).	1,451 male light industry employees in California.	NS ..... 10.2 (253) SM ..... 23.3 (1,198) <1 pack- year ..... 11.0 (257) 1–9 ..... 17.0 (268) 10–19 ..... 25.0 (303) 20–29 ..... 21.0 (236) 30–39 ..... 28.0 (144) 40–49 ..... 39.0 (92) 50–59 ..... 34.0 (29) >60 ..... 50.0 (24)	NS ..... 11.0 SM ..... 30.4 <1 pack- year ..... 12.0 1–9 ..... 18.0 10–19 ..... 32.0 20–29 ..... 34.0 30–39 ..... 40.0 40–49 ..... 37.0 50–59 ..... 45.0 >60 ..... 62.0	NS ..... 9.8 SM ..... 14.5 <1 pack-year .. 10.0 1–9 ..... 12.0 10–19 ..... 11.0 20–29 ..... 18.0 30–39 ..... 21.0 40–49 ..... 13.0 50–59 ..... 38.0 >60 ..... 29.0			

TABLE A2.—*Smoking and chronic obstructive pulmonary disease symptoms*<sup>1</sup>—percent prevalence (cont.)  
 (Numbers in parentheses represent total number of individuals in particular smoking group)  
 SM = Smokers. NS = Nonsmokers. EX = Ex-smokers.

Author, year, country, reference	Number and type of population	Cough	Sputum production	Breathlessness or dyspnea	Chest illnesses	Other	Comments
Boucot et al., 1962, U.S.A. (86).	6,137 males enrolling in pulmonary neoplasm project.	NS ..... 13.0 (806) SM ..... 31.5 (5,381)					
Ferris et al., 1962, U.S.A. (82).	90 male and 71 female flax mill-workers.						<i>Chronic Nonspecific Respiratory Disease</i> <i>Males Females</i>
							NS . 15.0 (20) 10.0 (60) EX . 12.5 (16) .. 1-20 27.3 (22) .. >20 53.1 (32) 50.0 (4)
Ferris and Anderson, 1962, U.S.A. (81).	542 male and 625 female residents of New Hampshire town chosen by random sampling of census.						<i>Chronic bronchitis</i> Age-specific rates. <i>Males</i> NS ..... 13.8 (125) EX ..... 11.9 (77) Cigarettes 40.3 (340) 1-10 .... 29.8 11-20 .... 34.2 21-30 .... 42.3 31-40 .... 61.1 >41 .... 75.3 <i>Females</i> NS ..... 9.4 (878) EX ..... 10.8 (37) Cigarettes 19.8 (208) 1-10 .... 18.1 11-20 .... 22.2 21-30 .... .. 31-40 .... 27.3 >41 .... ..

TABLE A2.—*Smoking and chronic obstructive pulmonary disease symptoms<sup>1</sup>—percent prevalence (cont.)*

(Numbers in parentheses represent total number of individuals in particular smoking group)

SM = Smokers.

NS = Nonsmokers.

EX = Ex-smokers.

Author, year, country, reference	Number and type of population	Cough	Sputum production	Breathlessness or dyspnea	Chest illnesses	Other	Comments
Goldsmith et al., 1962, U.S.A. (95).	3,381 active or retired longshoremen.						<i>Respiratory conditions</i>
							NS ..... 31.4 (744)
							Moderate/heavy smokers 43.0 (1,238)
Coates et al., 1965, U.S.A. (53).	1,342 male and 242 female Detroit post office employees.		NS ..... 11.2 (747) 1-14 ... 12.7 (266) (not sig.) 15-24 ... 27.5 (402) (p<0.001) >25 ... 36.4 (170) (p<0.001)	NS ... 14.7 1-14 ... 28.2 (p<0.001) 15-24 ... 30.7 (p<0.001) >25 ... 34.1 (p<0.001)			<i>Cough and chronic phlegm</i> Current NS ..... 4.0 smoking 1-14 .... 5.3 (not sig.) data. 15-24 .... 17.2 (p<0.001) >25 .... 25.3 (p<0.001)
Deane et al., 1965, U.S.A. (67).	508 tele- phone company workers.						<i>Persistent cough, phlegm, dyspnea</i> NS ..... 4.5 (200) Current cigarette smokers 15.9 (808)
Huhti, 1965, Finland (126).	653 male and 823 female residents of a Finnish communal region, 40-64 years of age.	<i>Males</i> NS ..... 4.1 (122) EX ..... 8.5 (141) 1-14 .... 31.5 (108) 15-24 .... 40.8 (191) >25 .... 42.4 (85)	<i>Males</i> NS ..... 10.7 EX ..... 17.7 1-14 ..... 38.0 15-24 ..... 42.9 >25 ..... 42.4	<i>Males</i> NS ..... 15.6 EX ..... 24.8 1-14 ..... 25.0 15-24 ..... 26.2 >25 ..... 31.8			<i>Chronic bronchitis</i> <i>Males</i> NS ..... 5.7 EX ..... 16.3 1-14 .... 38.0 15-24 .... 41.4 >25 .... 40.0
		<i>Females</i> NS ..... 4.5 (709) EX ..... 13.3 (30) 1-14 .... 10.4 (77) 15-24 .... 43.0 (6) >25 .... 43.0 (1)	<i>Females</i> NS ..... 5.9 EX ..... 13.3 1-14 ..... 10.4 15-24 } ..... 57.0 >25 } ..... 57.0	<i>Females</i> NS ..... 29.2 EX ..... 33.3 1-14 ..... 14.3 15-24 } ..... 14.0 >25 } ..... 14.0			<i>Ex-smokers</i> represent those who have stopped smoking for more than 1 month. <i>Dyspnea</i> Grade II only.